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| 10/539,980 | 06/19/2005 | Michel J Zwanenburg | US020619 | 8350 |
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| PHILIPS INTELLECTUAL PROPERTY & STANDARDS | | | DINH, TRINH VO | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

| | |
|-----------------|-------------------|
| Application No. | Applicant(s) |
| 10/539,980 | ZWANENBURG ET AL. |
| Examiner | Art Unit |
| Trinh Vo Dinh | 2821 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 October 2007.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 and 22-24 is/are pending in the application.

4a) Of the above claim(s) 14-21 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-13,22-24 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application
6) Other: _____.

DETAILED ACTION

This is a response to the amendment filed 10/08/2007. In view of the amendment, claims 1 has been amended, claims 22-24 are newly added and non-elected claims 14-21 are withdrawn. The amended claim 1 and newly added claims 22-24 necessitate new grounds of rejection set forth below.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a block of independently driven LEDs” in claim 22, and “(LED) is at least one red LED, at least one green LED, and at least one blue LED” in claim 24, or “the at least one light emitting diode (LED) is a plurality of LEDs, each of the plurality of LEDs emitting a light signal and a reference signal” in claim 23 must shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the

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filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 22, it is unclear what "The LED is a block of independently driven LEDS" means. Note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. For a purpose of examination, "a block of independently driven LEDS" is best understood as "plurality of LEDS of a single color".

Claim 23 recites "each of the plurality of LEDs emitting a light signal at a discrete frequency and a reference signal at the discrete frequency". It is unclear if each of the LEDS emits both a light signal and a reference signal or if each of the LEDs emits only a light signal.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi et al (US 6,055,251 of record).

Respecting claims 1 and 5, Ouchi discloses, in Figs. 13-16, light source control apparatus comprising at least one light source, each light source emitting a light signal at a discrete frequency and a reference signal at the discrete frequency; a photodetector (413, 509, 609) optically coupled to the light source, the photodetector designed to receive the light signal; and at least one lock-in system (406-407, 411-412, 416) coupled to the photodetector and each light source, each lock-in system receiving the light signal from the photodetector and receiving the reference signal from the light source wherein each lock-in system produces an intensity value of the light source based on the light signal and the reference signal and the intensity value is the intensity of the light signal at the associated discrete frequency (col. 11 line 9 to col. 13 line 21). However, Ouchi does not suggest the at least light source being a light emitting diode (LED). However, using LEDs has been a well-known practice in the art to provide lighting. Therefore to provide Ouchi with an LED as a light source would have been deemed obvious to one skill in the art to emit lights since LED can provide the necessary optical power and it is small, light weight, inexpensive, efficient and easy to operate as evident by Schaham in US 5,192,856, col. 5 lines 30-34.

Respecting claims 2-3, Ouchi discloses, in Figs. 13-16, each light source comprises a control unit; and a colored light source designed to receive a drive signal from the control unit and produce the light signal based on the drive signal, and the control unit is designed to receive a clock signal and a power signal, produce the reference signal at the discrete frequency based on

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the clock signal, and produce the drive signal based on the reference signal and the power signal (col. 11 line 9 to col. 13 line 21).

Respecting claims 6-7, Ouchi discloses each lock-in system comprises a frequency multiplier (407, 406); and a low-pass filter (416), the filter coupled to the frequency multiplier; wherein the intensity value is the product of the received light signal and the reference signal processed through the multiplier, and filtered to remove non-dc portions.

Respecting claims 4 and 8, Ouchi discloses every feature of the claimed invention except the photodetector being a single-junction photodiode or a multi-junction photodiode. However, using a single-junction or multi-junction diode has been a well-known practice in the art to enhance light signal. Therefore to select well known types of photodiode for photodetector would have been deemed obvious to one skill in the art.

Respecting claims 9-13, Ouchi discloses, in Figs. 13-16, the at least one lock-in system comprises a plurality of lock-in devices, each lock-in device coupled to the photodetector to receive a portion of the light signal wherein each lock-in system comprises a frequency multiplier (407, 406), and a low-pass filter (416), the filter coupled to the frequency multiplier; wherein the intensity value is the product of the received light signal and the reference signal processed through the multiplier, and filtered to remove non-dc portions, and the intensity value is the sum of the partial intensity values.

Respecting claims 22-24, although Ouchi does not suggest the least one light emitting diode (LED) is LEDs of a single color, or plurality of different color LEDS, it would have been well known in the art to use many LEDS of a single color or with different colors for emitting lights since doing so would increase intensity and/or beam width of illumination for that color as

disclosed by Dowling in US 2002/0070688, paragraph [0089] or Piegras in US 2003/0137258, paragraph [0125].

Conclusion

6. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens, can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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November 27, 2007



TRINH DINH
PRIMARY EXAMINER